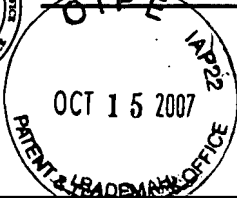




# UNITED STATES PATENT AND TRADEMARK OFFICE



UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/822,964

04/13/2004

Michelle D. Simkulet

3607

7590  
Michelle Simkulet  
105 Jordan Road  
Troy, NY 12180

09/25/2007

EXAMINER

LEUBECKER, JOHN P

ART UNIT

PAPER NUMBER

3739

MAIL DATE

DELIVERY MODE

09/25/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/822,964	SIMKULET ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	John P. Leubecker	3739	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/14/04</u> .  | 6) <input type="checkbox"/> Other: _____                          |

***Specification***

1. The abstract of the disclosure is objected to because it should not begin with “The *objective of the present invention* is...”. Correction is required. See MPEP § 608.01(b).
2. The disclosure is objected to because of the following informalities: on page 1 (line 3), the provisional application number “60,462,951” should be --60/462,951--.

Appropriate correction is required.

***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the second reflector having a concave geometry (claim 9) and the second reflector having a convex geometry (claim 10) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

4. Claims 5 and 18-26 are objected to because of the following informalities: in claim 5, line 3, "on" should be ~~one--~~; as to claims 18-26, the preamble (i.e., An endoscopic *imaging* system) is not consistent with previous claims. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 and 18-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, terms "the forward field of view" (line 3), "the panoramic field of view" (line 4), and "the endoscope" (line 11) lack antecedent basis.

As to claim 18, term "the remainder of the endoscope housing" lacks antecedent basis.

As to claims 19-24, term "the entire outer circumference" lacks antecedent basis and begs the question "of what?".

As to claim 24, terms “the inside of the optically transparent tube” and “the optically transparent tube” lack antecedent basis.

As to claims 25 and 26, term “the optically transparent tube” lacks antecedent basis.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitsui (U.S. Pat. 3,889,662).

Mitsui discloses an endoscopic optical system comprising; a panoramic/forward viewing optical element (15a,15b) which collects image information from the forward field of view and the panoramic field of view; and an endoscope objective (19,20) that collects and focuses the image information from the panoramic/forward viewing optical element; and an endoscopic eyepiece (25) to view the image information; and an endoscopic relay system (17,18) to transmit image information through the endoscope from the endoscope objective to the endoscopic eyepiece; and a means of endoscopic illumination (23a,23b) to distribute light to the forward field of view and the panoramic field of view.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai et al. (US 2003/0191369) in view of Charles (U.S. Pat. 6,449,103).

As to claim 1, Arai et al. discloses an endoscope including a panoramic viewing optical element (20, Fig.3) which collects image information from the panoramic field of view; and an endoscope objective (not shown but mentioned in [0034]) that collects and focuses the image information from the panoramic viewing optical element; and an endoscopic eyepiece (11a, Fig.2) to view the image information; and an endoscopic relay system (13, [0024]) to transmit image information through the endoscope from the (35) to distribute light to the panoramic field of view. Arai et al. fails to disclose a forward viewing optical component. Charles teaches a panoramic optical element in combination with a forward viewing optical element (note Figure 66 for example; note col.6, lines 53-56). Such panoramic/forward viewing optical system can be used in endoscopy (col.7, line 22) and would aid in providing a front view during insertion of the Arai et al. device. It would have been obvious at the time of the invention to one of ordinary skill in the art to have provided the panoramic/forward viewing optical element of Charles in place of the one shown in Arai et al. since it increases the view field and allows for forward viewing, an important direction of viewing when inserting an endoscope.

As to claims 2-5, the Charles panoramic/forward viewing optical system includes a forward optical element (66f, Fig.66), a first reflector (66b), a second reflector (66c) and a focusing optical element (66g).

As to claims 6-10, note that the first reflector can have a spherical or aspherical geometry, and that the second reflector can have a planar, concave or convex geometry (col.9, line 48 to col.10, line 41).

As to claims 11 and 12, both reflectors include a central clear aperture (66d,66e).

As to claim 13, note image plane (66j, Fig.66).

As to claim 14, note col.6, lines 19-32 of Charles.

As to claims 15-17, note col.1, lines 15-20 and claim 108 of Charles.

As to claim 18, note (66a, Fig.66) of Charles.

#### ***Allowable Subject Matter***

11. Claims 19-26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Heinz et al. (U.S. Pat. 3,404,934)

McKenna et al. (U.S. Pat. 5,547,455)

Jensen et al. (U.S. Pat. 7,110,124)

Schara et al. (US 2003/0092966)

Forkner (U.S. Pat. 4,697,577)

Tang et al. (US 2002/0183623)

Hayamizu et al. (U.S. Pat. 3,918,438)

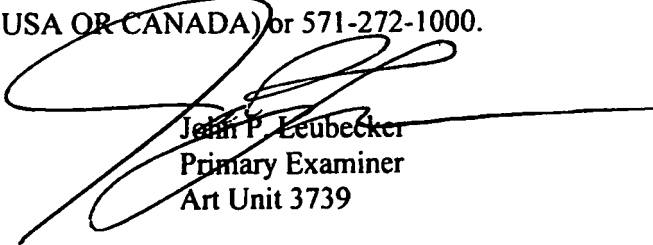
Sheldon (U.S. Pat. 2,987,960)

Wallace et al. (US 2004/0220478)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Leubecker whose telephone number is (571) 272-4769. The examiner can normally be reached on Monday through Friday, 6:00 AM to 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M. Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John P. Leubecker  
Primary Examiner  
Art Unit 3739





PTO/SB/08A (08-03)

Approved for use through 07/31/2008. OMB 0651-0031

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 2**Complete if Known**

Application Number	10/822,964
Filing Date	April 13, 2004
First Named Inventor	Simkulet
Art Unit	3739
Examiner Name	
Attorney Docket Number	

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
JL		US- 6,793,356 B2	09-21-2004	Kumata & Tanaka	
		US- 6,788,333 B1	09-07-2004	Uyttendaele, et al.	
		US- 6,754,814 B1	06-22-2004	Barton & Beckstead	
		US- 6,621,516 B1	09-16-2003	Wasson, et al.	
		US- 6,611,282 B1	08-26-2003	Trubko, et al.	
		US- 6,649,103 B1	09-10-2002	Charles	
		US- 6,424,377 B1	07-23-2002	Driscoll Jr., et al.	
		US- 6,392,687 B1	05-21-2002	Driscoll Jr., et al.	
		US- 6,388,820 B1	05-14-2002	Wallerstein, et al.	
		US- 6,373,642 B1	04-16-2002	Wallerstein, et al.	
		US- 6,369,818 B1	04-09-2002	Hoffman, et al.	
		US- 6,356,397 B1	03-12-2002	Naiwa	
		US- 6,333,826 B1	12-25-2001	Charles	
		US- 6,226,035 B1	05-01-2001	Korain, et al.	
		US- 6,222,682 B1	04-24-2001	Hoogland, et al.	
		US- 6,195,204 B1	02-27-2001	Naiwa	
		US- 6,130,783	10-10-2000	Yagi, et al.	
		US- 6,118,474	09-12-2000	Nayar	
JL		US- 6,028,719	02-22-2000	Beckstead	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>

Examiner  
Signature

/John Leubecker/

Date  
Considered

02/02/2007

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kind Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 801.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-788-9199) and select option 2.

**If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.**

FILED  
10/14/04

PTO/SB/088 (08-03)

Approved for use through 07/31/2008. OMB 0851-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete If Known</b>	
		Application Number	10/822,964
		Filing Date	April 13, 2004
		First Named Inventor	Simkulet
		Art Unit	3739
		Examiner Name	
Sheet 3	of 3	Attorney Docket Number	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials <sup>2</sup>	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
JL		SHREE K. NAYAR, Omnidirectional Vision, Proceedings of the 1997 International Symposium on Robotics Research, Japan.	

Examiner Signature	/John Leubecker/	Date Considered	02/02/2007
-----------------------	------------------	--------------------	------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

<b>Notice of References Cited</b>	Application/Control No. 10/822,964	Applicant(s)/Patent Under Reexamination SIMKULET ET AL.	
	Examiner John P. Leubecker	Art Unit 3739	Page 1 of 1

#### U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2,987,960 A	06-1961	SHELDON GILBERT J	359/367
*	B	US-3,404,934 A	10-1968	HEINZ BRACHVOGEL; et. al.	359/504
*	C	US-3,889,662 A	06-1975	Mitsui, Kazuhiko	600/139
*	D	US-3,918,438 A	11-1975	Hayamizu et al.	600/168
*	E	US-4,697,577 A	10-1987	Forkner, John F.	600/173
*	F	US-5,547,455 A	08-1996	McKenna et al.	600/113
*	G	US-2002/0183623 A1	12-2002	Tang et al.	600/476
*	H	US-2003/0092966 A1	05-2003	Schara et al.	600/173
*	I	US-2003/0191369 A1	10-2003	Arai et al.	600/173
*	J	US-2004/0220478 A1	11-2004	Wallace et al.	600/476
*	K	US-7,110,124 B2	09-2006	Jensen et al.	356/626
	L	US-			
	M	US-			

#### FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

#### NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

TC3700 RANDOLPH

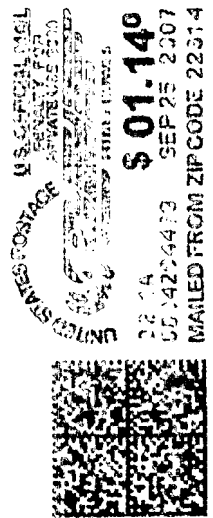
Organization  
United States Patent and Trademark Office  
P.O. Box 1450

Alexandria, VA 22313-1450

If Undeliverable Return in Ten Days

AN EQUAL OPPORTUNITY EMPLOYER

OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE, \$300



RECEIVED  
OCT 16 2007  
USPTO MAIL CENTER

not here  
ATTEMPTED  
NOT KNOWN

SIMK105 101803030 IN 02 10/02/07

UNABLE TO FORWARD

NO FORWARD ORDER ON FILE

RETURN TO POSTMASTER  
OF ADDRESSEE FOR REVIEW